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THE STATUS OF CUCKOO-SHRIKES (CAMPEPHAGIDAE) IN THE DARWIN AREA, NORTHERN TERRITORY, 1974-1984.

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Summary

Five species of two genera of cuckoo-shrikes occur in the Darwin region. Counts taken throughout an eleven-year period indicate that three species are year-round residents and two species are dry season visitors. The Black-faced Cuckoo-shrike appears to have a peak northwards passage in May with many birds probably leaving Australia for the New Guinea region. Brief data on local breeding are presented and a few taxonomic remarks given.

Introduction

This is the fourth of a series of papers summarizing data on birds in the area of the Sanderson Sewerage Ponds, Darwin from 1974 to 1984. The study is continuing. Although the observations are subject to observer bias, they have been made with reasonable monthly regularity.

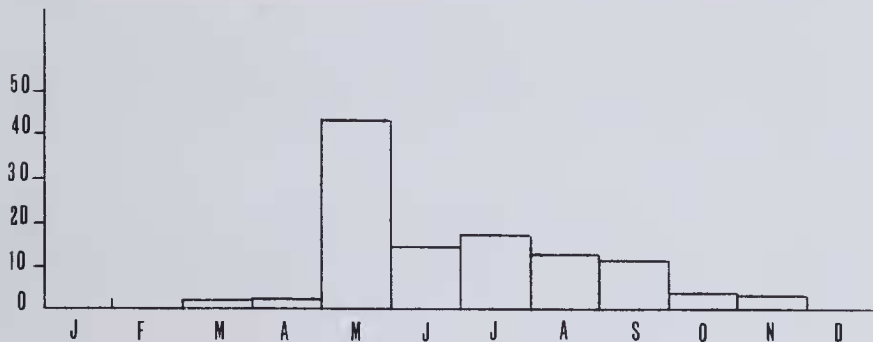
To arrive at figures for the histograms, the maximum number of each species recorded monthly at every site was scored. These monthly values were then totalled and averaged to arrive at mean monthly values for the eleven-year period.

To test whether the population samples were significantly different from month to month, the data were tested by the Friedman two-way analysis of variance. The monthly figures are ranked within a given

year from lowest to highest. The test, which is based upon the chi-square distribution, determines whether the rank totals for the months differ significantly.

Results and Discussion

1. Black-faced Cuckoo-shrike *Coracina novaehollandiae*



$\chi^2 = 64.29$, degrees of freedom (df) = 11, $p < 0.001$.

The result is highly significant, hence the uneven distribution among the months is real.

The Black-faced Cuckoo-shrike has a wide distribution ranging from China and India through Indonesia to the Solomon Islands and Australia (Peters *et al.* 1960). It seems likely on the basis of my own and others' field observations of various forms in this complex that the Australian breeding races *C. n. novaehollandiae*, *C. n. melanotis*, and *C. n. subpallida* are best treated as a separate species or semi-species associated with the complex of forms that breed from Indonesia to Asia. Mason and McKean (1982) have already suggested that *personata* of the Lesser Sunda Islands is best treated as a separate species. The race *C. n. subpallida* of mid-Western Australia is apparently sedentary while some at least of the population of *C. n. melanotis* and probably some of the thinly differentiated race *C. n. novaehollandiae* move northwards to winter in northern Australia and the New Guinea region with stragglers reaching the Lesser Sunda Islands and the Solomons (cf. Mayr 1944; Mees 1961, 1982; Rand and Gilliard 1967; Mason and McKean 1982).

It seems likely on geographical grounds that part of the population reaching Darwin passes onto areas north of Australia, possibly to the Moluccas and perhaps West Irian. At the time of peak northward passage (May), we have a number of records of parties of Black-faced Cuckoo-shrikes flying out to sea. As with the Sacred Kingfisher (Thompson 1984), there is no conspicuous return passage. It is, of course, possible that the birds moving south return by a different route or faintly possible that the mortality in the wintering areas north of Australia is so severe that returning birds hardly affect our data. My guess is that the return passage is fast, the birds not making a landfall on the Darwin coastline. It might also be made at night or at an altitude where they would not normally be detected by observers.

We have no breeding records from the Darwin area and in fact the species is largely absent during the months that breeding has been recorded in the Northern Territory viz. October to January (Storr 1977).

2. White-bellied Cuckoo-shrike *Coracina papuensis*



$$\chi^2 = 15.17, df = 11, p > 0.10.$$

The results are not significant. The rank totals and means indicate higher numbers in May and October, but the trend is not strong enough to preclude these data from occurring on chance alone.

The White-bellied Cuckoo-shrike occurs from the Moluccas through New Guinea to the Solomons and throughout northern and eastern Australia. It breaks up into a number of sub-species and in northern

Australia is considered sedentary, which agrees with our data.

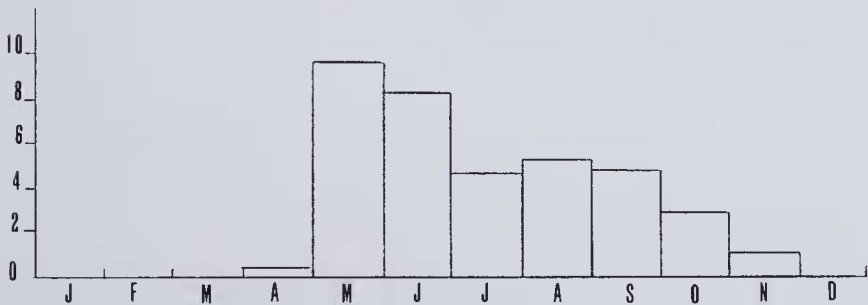
W.R. Mason and I have found nests with eggs most commonly in the Darwin area between September and November, with one nest in June. Storr (1977) gives the breeding months in the Northern Territory as December and January.

3. Cicada-bird *Coracina tenuirostris*

Cicada-birds occur from Sulawesi through New Guinea to the Solomons and throughout northern and eastern Australia. In the study area it was rare (only 9 sightings), but it was recorded in both wet and dry seasons. It occurred in both mangrove and monsoon rainforest, both of which are habitats that suffered extensive structural damage in Cyclone Tracey (1974). In mangroves to the west of Darwin which suffered much less damage, the species is more abundant. We have no local breeding records but males collected in November and January had enlarged testes.

The call of the Northern Territory form differs considerably from birds in north Queensland, New South Wales, the Solomons and Timor, which to my ears all sound different from each other. A study of geographical variation in vocalisations and morphology could well provide some interesting results.

4. White-winged Triller *Lalage tricolor*



$$\chi^2_{11} = 28.09, df = 11, p < 0.01.$$

The results are very significant hence the uneven distribution among

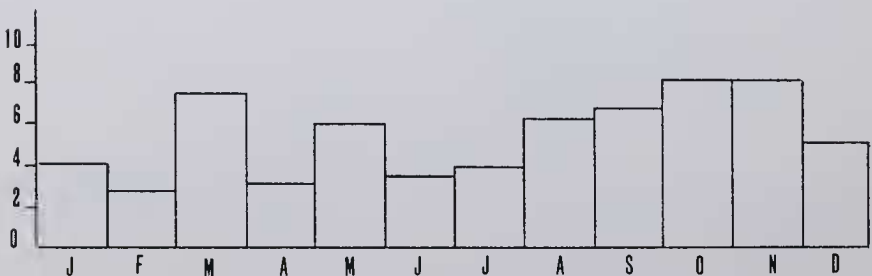
the months is not likely to be due to chance alone.

The White-winged Triller *Lalage tricolor* is sometimes regarded as a subspecies of *Lalage sueurii* of Indonesia, which differs in its lack of an eclipse plumage, sedentary habits, calls and other characters. The White-winged Triller is a strict migrant in southern Australia, arriving in spring and departing in autumn (Chapman 1976). The species is common in winter months in northern Australia and some of the Australian population winter in Papua New Guinea. It is unclear as to what percentage of the Papua New Guinea birds are breeding residents and how many are migrants from Australia (Clapp 1980).

Although our data are suggestive of a passage movement northwards, it seems unlikely that many, if any, of the birds reaching Darwin pass further north than Melville or Bathurst Islands, as the species is not known from the Moluccas or West Irian. A possible explanation of the peak in May and June is that during these months many of the males are fully or partially in their conspicuous breeding plumage which would increase the chance of their being seen.

Although we have no records from our study area some birds do nest at times in the vicinity of Darwin. W.R. Mason and H.A.F. Thompson have records of the species nesting in the mangroves at Nightcliff (3 nests with eggs in October in open forest in the Middle Point area; one nest with eggs in November; one nest with eggs, two nests with young in February).

5. Varied Triller *Lalage leucomela*



$$\chi^2_T = 8.62, df = 11, p > 0.50.$$

The results are not significant and the rank totals and means indicate bird numbers are more or less evenly distributed throughout the year. The Varied Triller is found throughout New Guinea and adjacent islands, across northern Australia from the Kimberleys to Cape York and south along the eastern coastal region to northern New South Wales. It breaks up into a number of subspecies. In the Northern Territory it is considered sedentary, which agrees with our data. Our only breeding record from the study area is a nest with young found by W.R. Mason in mangroves at Buffaio Creek in February.

Acknowledgements

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Literature Cited

- CLAPP, G.E. (1980). Speculation on the occurrence of some birds in the Musa Valley and Ora Bay/Pongani *Eucalyptus* and associated savannah areas of the northern province of Papua New Guinea: recent invaders or relict populations from the last glaciation. *P.N.G. Bird Soc. Newsl.* 173/4: 20-35.
- CHAPMAN, G. (1976). White-winged triller. in H.J. Frith (ed.) *Reader's Digest Complete Book of Australian Birds*. Reader's Digest: Sydney.
- MASON, I.J. and McKEAN, J.L. (1982). Taxonomic status of the Timor Cuckoo-shrike *Coracina personata* (Muller). *Bull. B.O.C.* 102: 127-129.
- MAYR, E. (1944). The birds of Timor and Sumba. *Bull. Amer. Mus. Nat. Hist.* 83: 123-194.
- McKEAN, J.L. (1981). The status of gulls and terns (Laridae) in the Darwin area, N.T. 1974-1980. *Aust. Seabird Group Newsl.* 15: 11-16.
- MEES, G.F. (1961). An annotated catalogue of a collection of bird-skins from West Pilbara. Western Australia. *Journ. Roy. Soc. W.A.* 44: 97-143.
- MEES, G.F. (1982). Birds from the lowlands of southern New Guinea (Merauke and Koembe). *Zool. Verhandelingen* 191: 1-188.

- PETERS, J.L., MAYR, E. and DEIGNAN, H.G. (1960). Family Campephagidae. in E. Mayr and J.C. Greenway (Eds.) *Check-list of Birds of the World*. vol. IX. M.C.Z.: Cambridge.
- RAND, A.L. and GILLIARD, E.T. (1967). *Handbook of New Guinea Birds*. Weidenfeld and Nicholson: London.
- STORR, G.M. (1977). Birds of the Northern Territory. *Spec.Publis. W.A.Museum* 7: 1-130.
- THOMPSON, H.A.F. (1982). The status of Cuckoos, Cuculidae, in the Darwin area, Northern Territory, 1974-1980. *N.T. Naturalist* 5: 13-19.
- THOMPSON, H.A.F. (1984). The status of Kingfishers and their allies (Coraciiformes) in the Darwin area, N.T. 1974-1984. *N.T.Naturalist* 7: 18-29.

A NOTE ON THE BIOLOGY AND DISTRIBUTION OF *MASTOTERMES DARWINIENSIS* FROGGATT

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Introduction

Most Top End residents sooner or later become aware of the so-called 'Giant' termite, *Mastotermes darwiniensis* Froggatt. The damage caused by this species is well documented (Hill 1942; Gay and Calaby 1970), but although some authors (Ratcliff, Gay and Greaves 1952; Gay 1970) have commented that it is absent from some soil types, no explanation of its particular distribution has been offered.

M. darwiniensis is the sole living representative of the family Mastotermitidae, of which fossil genera have been found in Europe,